

**REMARKS**

Reconsideration and allowance of the above-referenced application are respectfully requested.

**INTRODUCTION**

Claims 28 and 34 are cancelled without prejudice or disclaimer.

Claims 1, 26, 29, 30, 31, 32, and 35 are amended herein.

Claims 36-37 are added.

In view of the above, it is respectfully submitted that claims 1-10, 12-14, 26, 29-33, and 35 are currently pending and under consideration.

**CLAIM OBJECTIONS**

Claims 28 and 35 are objected to in that the recitation "the engaged first and second welding parts" on line 2 of claim 28 and "the ink chambers" on line 2 of claim 35 lacks clear antecedent basis.

Claim 28 has been amended to delete the word "engaged."

**REJECTION UNDER 35 U.S.C. §112**

Claims 26 and 28-35 are rejected under U.S. C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 26 is rejected because it is unclear what the "contact sections" are and how they are read on the preferred embodiment or seen on the drawings.

Claim 26 has been amended to "...wherein the second welding part further comprises an upper side and a lower side, wherein the first welding part contacts the upper side of the second welding part in at least two contact sections." Support for this Amendment is found in Paragraphs 40-44 and Figs. 11-13. For example in Fig. 11, the contact sections are shown where the front end corners of the second welding part 29 come in contact with the symmetrical faces of the symmetric triangular shape of the fourth welding part 37 (Paragraph 43, lines 6-9).

As stated above, claim 28 has been amended to delete the word "engaged."

Claim 34 has been canceled without prejudice or disclaimer.

Claim 35 is rejected for failing to provide the structural relationship between the cartridge body and lid with the holes and chambers.

Claim 35 has been amended to recite, "...wherein a plurality of ink injection holes are formed on the lid." Support for this Amendment is found in Paragraphs 33, 34, and 55 and in Fig. 7. In Fig. 7, ink is injected through the ink injection holes 36 and 38 found on the lid into the foam chambers 17 and the ink chambers 19 (Paragraph 34, lines 1-2). Thus, the rejection of claim 35 is moot.

#### **REJECTION UNDER 35 U.S.C. §103(a)**

On page 3, claims 1, 5-10, 12-14, 26, and 28-30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over "alleged" Applicants' Admitted Prior Art (APA) in view of Meadows (U.S. Patent No. 5,181,936).

Amended, independent claim 1 recites, "...wherein the second welding part has a thickness less than a width of each of the grooves in the fourth welding part, so that a predetermined space occurs on both sides of each second welding part when the second welding part is inserted in the fourth welding parts, to define a first area, and a second area where the second welding part has continuous contact in time and space with the fourth welding part."

On page 4, the Examiner admits that the alleged APA does not suggest "the second welding part has a thickness less than a width of each of the grooves in the fourth welding part, so that a predetermined space occurs on both sides of each second welding part when the second welding part is inserted in the fourth welding parts" as recited in independent claim 1.

On page 4, the Examiner asserts that Meadows makes up for the deficiencies of the alleged APA. The Applicants respectfully submit that Meadows fails to cure the deficiencies in the alleged APA. Although Meadows discusses providing a heat seal between a thermoplastic container and cover (col. 2, lines 1-3), this seal does not relate a lid or cartridge body of an ink cartridge. By way of example, Meadows fails to teach or suggest, "at least one ink head provided on the bottom of the cartridge body to eject ink; and at least one ink filter provided on an upper side of each ink head to prevent foreign materials or bubbles from flowing in" as recited in claim 1. Additionally, Meadows fails to teach or suggest, "a cartridge body, partitioned into foam chambers and ink chambers, and having a second welding part" as recited in claim 26. Meadows discusses a non-analogous art of containers and covers for batteries. The present invention is related to ink cartridges.

Meadows' alleged teaching relates to "the thermoplastic [of the cover 16] melts and exudes down the upper edge 40 as illustrated at 42" in a battery container (col. 4, lines 9-11). Meadows shows only *temporary contact* between the alleged second welding part 38 and the fourth welding part. As shown in Fig. 1, the alleged second welding part 38 extends into the alleged fourth welding part 18 (shown as channel 18') to melt the floors 26 and 26' (col. 4, lines 2-7), but does not show the second welding part having continuous contact in time and space with the fourth welding part.

In Fig. 2, the alleged second welding part 38 only contacts the floor 26. In Fig. 3 after the floors 26, 26' and the lips 14 have melted, the heated plate 32 with the alleged second welding part 38 is **removed** (col. 4, lines 14-15). Thus, Meadows does not teach or suggest "wherein the second welding part has a thickness less than a width of each of the grooves in the fourth welding part, so that a predetermined space occurs on both sides of each second welding part when the second welding part is inserted in the fourth welding parts, to define a first area, and a second area where the second welding part has continuous contact in time and space with the fourth welding part" as recited in claim 1.

On page 4, the Examiner admits that the APA and Meadows do not disclose the second welding part having a concave shape (claim 7), the second welding part has a cross section combining the rectangular and triangular shapes (claim 32), or the predetermined spaces are substantially equal to, or less than, 0.4 mm (claims 12 and 29). In paragraph 44 of the present invention:

The contact surfaces of the second welding part 29 and the fourth welding part 37 melt down, a portion of melted-down resin flows down into the left and right gaps 51 and 52, and a portion of remaining resin flows into space 39 on the upper side of the groove 41 to weld the second and fourth welding parts 29 and 37. As a result, the left, right, and upper sides of the second welding part 29 are completely welded and fixed, so tight sealing can be accomplished.

Paragraph 53 of the present invention states:

In this state, when an ultrasonic welder (not shown) is used and vibration energy is transferred, the lid 15 and the cartridge body 13 do not slide against each other, and when contact surfaces melt, resin flows in spaces on both sides. With the contact surfaces melted, resin is stacked up in the groove 62, and the second welding part 29 and the fourth welding part 37 are firmly and fixedly welded.

As a result of the firm welding and sealing of the second welding part 29 of the cartridge

body 13 and the fourth welding part 37 of the lid 15, there is little chance for different color inks to be mixed with one another (Para. 56). As stated above, Meadows shows the alleged second welding part 38 only contacting the floor 26 and does not contact the alleged fourth welding part 18. In Fig. 3 after the floors 26, 26' and the lips 14 have melted, the heated plate 32 with the alleged second welding part 38 is **removed** (col. 4, lines 14-15). In contrast, amended claim 26 recites, "...wherein a predetermined space occurs on both sides of the second and fourth welding parts, and an amount of resin flows in the predetermined space welding the second and fourth welding parts together." Thus, Meadows teaches away from the present invention by removing the heated plate 32 with the alleged second welding part 38.

Neither the APA nor Meadows, individually or combined, teach or suggest "...wherein a predetermined space occurs on both sides of the second and fourth welding parts, and an amount of resin flows in the predetermined space welding the second and fourth welding parts together" as recited in claim 26.

Claims 2-4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over "alleged" Applicants' Admitted Prior Art (APA) in view of Meadows as applied to claim 1 and further in view of Altendorf (6,183,072).

On page 5 of the Office Action in the third full paragraph, the Examiner asserts that Altendorf shows the alleged second welding part 86 in Figs. 4A-4B. However, on page 6 in the first full paragraph, the Examiner asserts that the alleged third welding part is also labeled with reference number "86" and also found in Figs. 4A-4D. In the Office Action, it appears that the Examiner believes that the first welding part, second welding part, and third welding part of Applicant's invention corresponds, respectively, to the incline 87, the snap 86 in Fig. 4B, and the snap 86 in Fig. 4D in Altendorf.

In Fig. 4B, Altendorf shows snaps 86 molded into the second member 22 (col. 7, lines 5-10). In Fig. 4D, Altendorf shows an alternate snap lock mechanism where a snap 86 is molded as part of cover 28 (col. 7, lines 12-13). Therefore, the snap 86 shown in figs. 4B and 4D are not separate or distinct welding parts. Snap 86 in Fig. 4B is the same snap shown in Fig. 4D, however in a different configuration. Altendorf does not teach or suggest a "third welding part."

Therefore, Altendorf does not teach or suggest "wherein the first welding part has a first section horizontally protruded in cross-section and a second section vertically protruded to the first section, and the third welding part has a third section vertically protruded, a fourth section horizontally protruded, and a fifth section in a diagonal cross-sectional shape connecting the third section and the fourth section" as recited in claim 2.

In view of the above, it is respectfully submitted that the rejection is overcome.

#### CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that each of the claims patentably distinguishes over the prior art, and therefore defines allowable subject matter. A prompt and favorable reconsideration of the rejection along with an indication of allowability of all pending claims are therefore respectfully requested.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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